Amendment to the Claims:

Amendments to claims 1, 8-13, 17-19, 25, 32, 34-38, 42-44 and 50 were made with this Response to Ex Parte Quayle Action.

Listing of Claims:

1. (Currently Amended) A method for defining one or more communication channels in an Ultra Wideband system, comprising:

generating at least one code having at least one code element value representing at least one non-temporal characteristic of at least one Ultra Wideband waveform, wherein said at least one non-temporal characteristic comprises at least one ~~of~~ ~~an~~ amplitude or a waveform type; and

associating said at least one code element value with said at least one non-temporal characteristic to define said one or more communication channels.

2. (Cancelled)

3. (Cancelled)

4. (Cancelled)

5. (Cancelled)

6. (Previously Amended) The method of claim 1, wherein said at least one code element value is associated with at least one temporal characteristic in addition to said at least one non-temporal characteristic.

7. (Previously Amended) The method of claim 6, wherein said temporal characteristic corresponds to a position in time.

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8.   (Currently Amended) The method of claim 1, wherein ~~each of~~ said at least one code element value comprises an integer or floating-point value.

9.   (Currently Amended) The method of claim 1, wherein ~~each of~~ said at least one code element value indicates any one of:

at least one component;

at least one sub-component of said component; and

at least one smaller component of said sub-component established by recursively breaking down said sub-component into smaller parts,

wherein said at least one component, said at least one sub-component of said component, and said at least one smaller component of said sub-component are defined within at least one layout comprising a range of non-temporal characteristic values.

10.   (Currently Amended) The method of claim 9, wherein any one of said at least one component is any one of:

a same size; and

a different size

than others of said at least one component, and

wherein any one of said at least one sub-component of said component is any one of:

a same size; and

a different size

than others of said at least one sub-component of said component, and

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wherein any one of said at least one smaller component <u>of said sub-component</u> is any one of:

a same size; and

a different size

than others of said at least one smaller component <u>of said sub-component</u>.

11. (Currently Amended) The method of claim 9, wherein said at least one component, said at least one sub-component <u>of said component</u>, and said ~~any number of~~ <u>at least one</u> smaller components <u>of said sub-component</u> comprise at least one non-allowable region established by at least one rule.

12. (Currently Amended) The method of claim 11, wherein said at least one rule establishing at least one non-allowable region is based on any one of:

a minimum value; and

a maximum value,

of any one of:

said at least one component;

said at least one sub-component <u>of said component</u>; and

said ~~any number of~~ <u>at least one</u> smaller components <u>of said sub-component</u>.

13. (Currently Amended) The method of claim 11, wherein said at least one rule establishing at least one non-allowable region is based on minimum and maximum values within any one of:

said at least one component;

said at least one sub-component of said component; and

said ~~any number of~~ at least one smaller components of said sub-component,

within a layout.

14.   (Original) The method of claim 11, wherein said at least one rule establishing at least one non-allowable region is based on at least one non-temporal characteristic value of at least one other pulse.

15.   (Previously Amended) The method of claim 14, wherein said at least one rule establishing at least one non-allowable region establishes a minimum value difference from said at least one non-temporal characteristic value or a maximum value difference from said at least one non-temporal characteristic value.

16.   (Previously Amended) The method of claim 14, wherein said at least one rule establishing at least one non-allowable region establishes a region bounded by a minimum value difference from said at least one non-temporal characteristic value and a maximum value difference from said at least one non-temporal characteristic value.

17.   (Currently Amended) The method of claim 9, wherein an established offset value is used to specify an exact non-temporal characteristic value within any one of:

said at least one component;

said at least one sub-component of said component; and

said ~~any number of~~ at least one smaller components of said sub-component indicated by said at least one code element value.

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18.   (Currently Amended) The method of claim 17, wherein an absolute offset value is added to the minimum value of the at least one component, the at least one sub-component of the component, or and the at least one smaller component of the sub-component to which the at least one code element value is mapped.

19.   (Currently Amended) The method according to claim 17, wherein a relative offset value is used to specify a value that is a fraction of the difference between the minimum value and maximum value of any one of:

said at least one component;

said at least one sub-component of said component; and

said any number of at least one smaller components of said sub-component.

20.   (Original) The method of claim 19, wherein a fractional part of a floating-point code element value comprises said relative offset value.

21.   (Cancelled)

22.   (Previously Amended) The method according to claim 1, wherein the waveform type of said Ultra Wideband waveform comprises at least one of:

a square wave pulse;

a sawtooth pulse;

a Haar wavelet pulse;

a Gaussian monopulse;

a doublet pulse;

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a triplet pulse; and

a set of wavelets.

23.   (Currently Amended) The method according to claim 1, wherein ~~each of~~ said at least one code element value corresponds to a value defined within a layout comprising discrete non-temporal characteristic values.

24.   (Currently Amended) The method according to claim 1, wherein ~~each of~~ said at least one code element value corresponds to a value defined within a layout comprising a range of non-temporal characteristic values and discrete non-temporal characteristic values.

25.   (Currently Amended) The method according to claim 9, wherein said <u>at least one</u> layout is a delta value layout.

26.   (Previously Amended) An Ultra Wideband system comprising:

an Ultra Wideband Transmitter;

an Ultra Wideband Receiver; wherein said Ultra Wideband Transmitter and said Ultra Wideband Receiver employ at least one code, wherein said at least one code comprises at least one code element value, and said at least one code element values being associated with at least one non-temporal characteristic of at least one Ultra Wideband waveform to define one or more communication channels, said at least one non-temporal characteristic comprising at least one of an amplitude or a waveform type.

27.   (Cancelled)

28.   (Cancelled)

29   (Cancelled)

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30.   (Cancelled)

31.   (Previously Amended) The Ultra Wideband system of claim 26, wherein said at least one code element value is associated with at least one temporal characteristic in addition to said at least one non-temporal characteristic.

32.   (Currently Amended) The Ultra Wideband system of claim 31, wherein said at least one temporal characteristic corresponds to a position in time.

33.   (Currently Amended) The Ultra Wideband system of claim 26, wherein each of said at least one code element value comprises an integer or floating-point value.

34.   (Currently Amended) The Ultra Wideband system of claim 26, wherein each of said at least one code element value indicates any one of:

at least one component;

at least one sub-component of said component; and

at least one smaller component of said sub-component established by recursively breaking down said sub-component into smaller parts,

wherein said at least one component, said at least one sub-component of said component, and said at least one smaller component of said sub-component are defined within at least one layout comprising a range of non-temporal characteristic values.

35.   (Currently Amended) The Ultra Wideband system of claim 34, wherein any one of said at least one component is any one of:

a same size; and

a different size

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than others of said at least one component, and

wherein any one of said at least one sub-component <u>of said component</u> is

any one of:

a same size; and

a different size

than others of said at least one sub-component <u>of said component</u>, and

wherein any one of said at least one smaller component <u>of said sub-</u>

<u>component</u> is any one of:

a same size; and

a different size

than others of said at least one smaller component <u>of said sub-component</u>.

36.   (Currently Amended) The Ultra Wideband system of claim 34, wherein

said at least one component, said at least one sub-component, and said ~~any number of~~ <u>at</u>

<u>least one</u> smaller components <u>of said sub-component</u> comprise at least one non-allowable

region established by at least one rule.

37.   (Currently Amended) The Ultra Wideband system of claim 36, wherein

said at least one rule establishing at least one non-allowable region is based on any one

of:

a minimum value; and

a maximum value,

of any one of:

said at least one component;

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said at least one sub-component of said component; and

said any number of at least one smaller components of said sub-

component.

38.   (Currently Amended) The Ultra Wideband system of claim 36, wherein

said at least one rule establishing at least one non-allowable region is based on minimum

and maximum values within any one of:

said at least one component;

said at least one sub-component of said component; and

said any number of at least one smaller components of said sub-

component,

within a layout.

39.   (Previously Amended) The Ultra Wideband system of claim 36, wherein

said at least one rule establishing at least one non-allowable region is based on at least

one non-temporal characteristic value of at least one other pulse.

40.   (Previously Amended) The Ultra Wideband system of claim 39, wherein

said at least one rule establishing at least one non-allowable region establishes a

minimum value difference from said at least one non-temporal characteristic value or a

maximum value difference from said at least one non-temporal characteristic value.

41.   (Previously Amended) The Ultra Wideband system of claim 39, wherein

said at least one rule establishing at least one non-allowable region establishes a region

bounded by a minimum value difference from said at least one non-temporal

characteristic value and a maximum value difference from said at least one non-temporal characteristic value.

42. (Currently Amended) The Ultra Wideband system of claim 34, wherein an established offset value is used to specify an exact non-temporal characteristic value within any one of:

said at least one component;

said at least one sub-component of said component; and

said ~~any number of~~ at least one smaller components of said sub-component indicated by said at least one code element value.

43. (Currently Amended) The Ultra Wideband system of claim 42, wherein an absolute offset value is added to the minimum value of the at least one component, the at least one sub-component of the component, ~~or~~ and the at least one smaller component of the sub-component to which the at least one code element value is mapped.

44. (Currently Amended) The Ultra Wideband system according to claim 42, wherein a relative offset value is used to specify a value that is a fraction of the difference between the minimum value and maximum value of any one of:

said at least one component;

said at least one sub-component of said component; and

said ~~any number of~~ at least one smaller components of said sub-component.

45. (Previously Amended) The Ultra Wideband system of claim 44, wherein a fractional part of a floating-point code element value comprises said relative offset value.

46.   (Cancelled)

47.   (Previously Amended) The Ultra Wideband system according to claim 26, wherein the waveform type of said Ultra Wideband waveform comprises at least one of:

a square wave pulse;

a sawtooth pulse;

a Haar wavelet pulse;

a Gaussian monopulse;

a doublet pulse;

a triplet pulse; and

a set of wavelets.

48.   (Currently Amended) The Ultra Wideband system according to claim 26, wherein each of said at least one code element value corresponds to a value defined within a layout comprising discrete non-temporal pulse characteristic values.

49.   (Currently Amended) The Ultra Wideband system according to claim 26, wherein each of said at least one code element value corresponds to a value defined within a layout comprising a range of non-temporal characteristic values and discrete non-temporal characteristic values.

50.   (Currently Amended) The Ultra Wideband system according to claim 34, wherein said at least one layout is a delta value layout.